

Notice of Allowability

Application No.

10/784,834

Examiner

Thuan N. Du

Applicant(s)

MAHER ET AL.

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on October 7, 2005 and telephone interviewed on December 22, 2005.
2. ☒ The allowed claim(s) is/are 23-29,31,33-45,47,49-60,62 and 64-69 (renumbered as 1-41).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20051222</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark A. Dalla Valle, Reg. No. 34,147 on December 22, 2005.

2. The application has been amended as follows:

In the specification:

Under "Related Applications" section, page 1, after "filed August, 2002" please insert -- , which is a division of application No. 09/779,150, filed on February 8, 2001, now Pat. No. 6,694,443 B1, which is a division of application No. 09/570,155, filed on May 12, 2000, now Pat. No. 6,343,363, which is a continuation of application No. 08/777,772, filed on Dec. 9, 1996, now Pat. No. 6,088,807, which is a division of application No. 08/310,895, filed Sep. 22, 1994, now Pat. No. 5,630,143, which is a continuation of application No. 07/858,579, Mar. 27, 1992, abandoned --

In the claim: Please amend claims 23, 39 and 55 as follow:

23. A method for suspending operation of a pipelined data processor to reduce power consumption, comprising:

enabling a first clock signal in response to an occurrence of a first combination of respective states of one or more clock control signals;

advancing a sequence of instructions to a first portion of a pipeline subcircuit;

executing said advanced sequence of instructions with a second portion of said pipeline subcircuit subsequent to said first pipeline subcircuit portion in response to said enabled first clock signal; and

detecting an occurrence of a second combination of said respective states of said one or more clock control signals and in response thereto

interrupting said advancing of said sequence of instructions to said first pipeline subcircuit portion, followed by

completing executing of said advanced sequence of instructions which had been advanced to said first pipeline subcircuit portion, wherein said advanced sequence of instructions being executed had been advanced to said first pipeline subcircuit portion prior to said interrupting, followed by

executing with said second pipeline subcircuit portion a plurality of microcode substantially unrelated to said advanced sequence of instructions in response to said enabled first clock signal, and followed further by

disabling said first clock signal.

39. A method for suspending operation of a pipelined data processor to reduce power consumption, comprising:

Art Unit: 2116

enabling a first clock signal in response to an occurrence of a first combination of respective states of one or more clock control signals;

advancing a sequence of instructions to a first portion of a pipeline subcircuit;

executing said advanced sequence of instructions with a second portion of said pipeline subcircuit subsequent to said first pipeline subcircuit portion in response to said enabled first clock signal; and

detecting an occurrence of a second combination of said respective states of said one or more clock control signals and in response thereto

interrupting said advancing of said sequence of instructions to said first pipeline subcircuit portion, followed by

completing executing of said advanced sequence of instructions which had been advanced to said first pipeline subcircuit portion, wherein said advanced sequence of instructions being executed had been advanced to said first pipeline subcircuit portion prior to said interrupting, and

generating a plurality of address data, followed by

executing with said second pipeline subcircuit portion a plurality of microcode corresponding to said plurality of address data and substantially unrelated to said advanced sequence of instructions in response to said enabled first clock signal, and followed further by

disabling said first clock signal.

55. A method for suspending operation of a pipelined data processor to reduce power consumption, comprising:

Art Unit: 2116

enabling a first clock signal in response to an occurrence of a first combination of respective states of one or more clock control signals;

advancing a sequence of instructions to a first portion of a pipeline subcircuit;

executing said advanced sequence of instructions with a second portion of said pipeline subcircuit subsequent to said first pipeline subcircuit portion in response to said enabled first clock signal; and

detecting an occurrence of a second combination of said respective states of said one or more clock control signals and in response thereto

interrupting said advancing of said sequence of instructions to said first pipeline subcircuit portion, followed by

completing executing of said advanced sequence of instructions which had been advanced to said first pipeline subcircuit portion, wherein said advanced sequence of instructions being executed had been advanced to said first pipeline subcircuit portion prior to said interrupting,

generating a plurality of address data, and

addressing said first pipeline subcircuit portion with said plurality of address data and in response thereto generating a plurality of microcode substantially unrelated to said advanced sequence of instructions, followed by

executing said plurality of microcode with said second pipeline subcircuit portion in response to said enabled first clock signal, and followed further by

disabling said first clock signal.

Art Unit: 2116

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan N. Du whose telephone number is (571) 272-3673. The examiner can normally be reached on Monday-Friday: 9:30 AM - 8:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670.

Central TC telephone number is (571) 272-2100.

The fax number for the organization is (571) 273-8300.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Thuan N. Du
December 23, 2005



**THUAN N. DU
PRIMARY EXAMINER**